

USDA, ECONOMIC RESEARCH SERVICE
FY 2004 Performance and Resource Plan

Statement of Agency goals and Objectives

The Economic Research Service (ERS) was established in 1961 from components of the former Bureau of Agricultural Economics principally under the authority of the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627). The mission of ERS is to inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development. ERS performs work under one appropriation item, economic analysis and research.

ERS has five strategic goals which correspond to each of the five Department strategic goals.

USDA Strategic Goal	Agency Strategic Goal	Agency Objectives	Programs that contribute	Key Outcome
USDA Goal 1: Enhance economic opportunities for agricultural producers	Agency Goal 1: Enhance economic opportunities for agricultural producers	N/A	Economic Research and Analysis	Successful completion of planned research that enhances understanding by policy makers, regulators, program managers, and those shaping the public debate of economic issues related to the goal and that reflects the substance of related policy principles explicated in <i>Food and Agricultural Policy: Taking Stock for the New Century</i>
USDA Goal 2: Support increased economic opportunities and improved quality of life in rural America.	Agency Goal 2: Support increased economic opportunities and improved quality of life in rural America.	N/A	Economic Research and Analysis	Same as Goal 1.
USDA Goal 3: Enhance protection and safety of the Nation's agriculture and food supply.	Agency Goal 3: Enhance protection and safety of the Nation's agriculture and food supply.	N/A	Economic Research and Analysis	Same as Goal 1.
USDA Goal 4: Improve the Nation's nutrition and health.	Agency Goal 4: Improve the Nation's nutrition and health.	N/A	Economic Research and Analysis	Same as Goal 1.
USDA Goal 5: Protect and enhance the Nation's natural resource base and environment	Agency Goal 5: Protect and enhance the Nation's natural resource base and environment	N/A	Economic Research and Analysis	Same as Goal 1.

Goal 1. Enhance Economic Opportunities for Agricultural Producers.

Project Statement						
(On basis of appropriation)						
	2004 Actual		2005 Actual		2006 Actual	
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 1:						
Economic Research and Analysis	\$36,315,000	271	\$39,362,000	271	\$40,158,000	271

Describe the program and explain how the program contributes to achieving the goal

Being competitive in the global economy means being able to create and sustain comparative advantages consistent with resource endowments and technical capabilities. The ERS program assesses policies and programs intended to break down trade barriers in order to capitalize on comparative advantage and identifies and analyzes market structure and technological developments that affect efficiency and profitability. Research and analysis related to facilitating risk management by farmers and ranchers, and fostering economic growth and trade capacity building in developing countries rounds out the diverse range of issues that enhance economic opportunities for agricultural producers. In this way, ERS activities provide a foundation of research, analysis, and data to support USDA goals.

On an ongoing basis, ERS develops and disseminates research and analysis on the U.S. food and agriculture sector's competitiveness. Key emphasis areas include issues relating to the World Trade Organization (WTO) and regional trade agreements, domestic policy reforms, the structure and performance of agricultural commodity markets, the economic and financial structure, performance and viability of the farm sector and different types of farms, the state of global food security; and technological innovation. For example, ERS is currently creating a patent database for agricultural biotechnology that will provide answers to some basic questions about innovations in agricultural biotechnology, such as who is patenting and licensing what technologies. This research will help policymakers assess significant policy issues relating to innovation and to the potential effects of concentration on research and market power in the agricultural inputs industry.

ERS also monitors the structure and performance of the food marketing system, (food manufacturing, food wholesaling, food retailing, and food service): both as to how efficiently the system performs its role and, in the consumer driven agricultural economy, how effectively it conveys market signals from consumers. Examples of current work in this food marketing area include: (a) research examining the characteristics and operating costs of supermarkets in low-income areas in comparison with those in higher-income areas including the empirical relationship between store characteristics and operating costs. and (b) an examination of current developments in supply chain initiatives in the grocery industry and an assessment of their impacts.

ERS research and analytical activities are designed to provide policy makers and other decisions makers with an enhanced understanding of economic issues affecting the U.S. food and agriculture sector's competitiveness, including factors related to performance, structure, risk and uncertainty, marketing and market and nonmarket trade barriers. These activities support achievement of USDA Goal 1, "Enhance Economic Opportunities for Agricultural Producers."

To meet this goal, ERS will: identify key economic issues relating to the competitiveness of U.S. agriculture; use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs and the effects of changing macroeconomic and market conditions on U.S. competitiveness; and effectively communicate research results to policy makers, program managers, and those shaping the public debate regarding U.S. agricultural competitiveness.

Selected Examples of Past Performance

Assessment of Agricultural Policy. ERS assesses the effects of farm policy on the food and agricultural sector. ERS led the development of analytical studies that responded to requests for USDA studies in the 2002 Farm Act. For example, the USDA report, *Economic Effects of U.S. Dairy Policy and Alternative Approaches to Milk Pricing*,

provides a comprehensive assessment of the effects of current U.S. dairy programs that takes into account the ongoing structural change in consumer demand, farm structure, and the processing industry. Other reports on specific commodities where the 2002 Farm Act changed programs include *Policy Change and Adjustment in the U.S. Peanut Sector* and *Trends in the U.S. Sheep Industry*.

ERS research on agricultural policy extends beyond individual commodities and contributes to understanding the links between agricultural policy, the diverse set of U.S. agricultural producers, and the rural communities in which they live. A new briefing room on the ERS website, *Farm Policy, Farm Households, and the Rural Economy*, brings together research findings on the broad effects of policies and explores policy alternatives and adjustments associated with various alternatives. In May 2004, ERS and the National Center for Food and Agricultural Policy jointly organized a workshop that explored the wide range of policy effects on farm households and rural America, *Agricultural Policy Links to Farm Households and the Rural Economy*.

Market Analysis and Outlook. ERS continues to work closely with the World Agricultural Outlook Board (WAOB) and USDA agencies to provide short and long-term projections of U.S. and world agricultural production, consumption, and trade. Several initiatives have increased the accessibility, timeliness, and breadth of the data and analysis. ERS launched a new, dynamic feature that offers the latest outlook information, data, and links through a central location on the ERS website. In addition, USDA's agricultural baseline projections are now released as soon as the components are completed.

Global Markets for High-Value Foods. ERS research on high-value product markets have produced initial findings that lay the foundation to support future research into understanding the complex trade patterns for these products. The report, *International Evidence on Food Consumption Patterns*, provides statistical evidence of global food consumption patterns across levels of income and products. The report's findings quantify the degree to which the demand for high-value products increases with income, and also their relative sensitivity to price changes across income groups. Among high-value products, trade in fruits and vegetables has increased rapidly in recent years in response to consumer demand for fresh products and variety. Analysis of trade flows in the report, *Global Trade Patterns in Fruits and Vegetables*, documents the importance of regional markets centered on Europe, Asia, and the Western Hemisphere, as well as the growth in exports from Southern Hemisphere countries in juices and off-season fresh fruits.

WTO and Regional Trade Agreement Negotiations. ERS research findings on the level of global agricultural tariffs and the relative impact of different components of the WTO Agreement on Agriculture that were presented in reports published in 2001 (*Profiles of Tariffs in Global Agricultural Markets* and *The Road Ahead: Agricultural Policy Reform in the WTO*), continue to be used by policymakers in speeches and cited by key agricultural stakeholders in their analysis of the benefits of further trade liberalization through WTO negotiations in the Doha Development Agenda. In March 2004, ERS released a comprehensive analysis of the economic effects of the Free Trade Agreement of the Americas. In addition to published reports, ERS continues to provide economic analysis of specific issues related to both the WTO and several regional trade agreements directly to agricultural trade negotiators at the Foreign Agricultural Service and the Office of the U.S. Trade Representative.

Agricultural Biotechnology Patent Database. In summer 2004, ERS released a web-based database of agricultural biotechnology intellectual property, which provides an unprecedented compilation of information to inform research on agricultural R&D and intellectual property. For over 11,000 U.S. utility patents issued between 1976 and 2000, the database includes detailed patent ownership histories that allow users to compare R&D across sectors (U.S. and non-U.S., private, nonprofit, public) and to track patent ownership through an extremely active period of industry mergers and acquisitions in the 1990s. Patents are also categorized into over 60 technology classes and subclasses. In addition, the database includes information on over 7,000 U.S. plant patents and on nonpatent intellectual property such as plant variety protection certificates and regulatory release approvals.

The private sector now accounts for a greater share of investment in agricultural R&D than the public sector, especially in the area of biotechnology. Preliminary analysis of the database shows that patenting in agricultural biotechnology has outpaced the overall upward trend in U.S. patents. In each of nine technology classes, the number of patents issued has increased sharply in recent years. The largest number of U.S. agricultural biotechnology patents belongs to Commercial firms. Database ownership information shows that concentration in

ownership of agricultural biotechnology patents has increased since 1995, a result that is clear only after accounting for industry mergers and acquisitions.

Increasing Access to Agricultural Resource Management Survey. The Agricultural Resource Management Survey (ARMS), USDA's annual national survey of farms, is the primary source of information about the financial condition, production practices, use of resources, and economic well-being of America's farmers and farm households. This year, ERS and NASS developed and released an interactive web-based system with multi-tiered security to enhance the public's ability to access, understand, and use the ARMS data, while protecting the confidentiality of the data contributors. The tool targets researchers in cooperative relationships with ERS, but has the potential to expand to other users, including the general public, with further security, performance and scalability enhancements. The system provides two types of data access: a basic tabulation tool and a set of advanced tools for multivariate analysis. Access to the system is governed by the newly implemented USDA eAuthentication procedures.

A wide range of data are available in the ARMS, including information on farm and operator household financial management, crop production practices, commodity costs of production, as well as new information for the 15 major agricultural States. ARMS is a powerful data source for direct answers to key questions from USDA policy officials, Congress, and other decisionmakers within and outside the Federal Government about the differential impacts of alternative policies and programs across the farm sector and among farm families.

U.S. Fresh Produce Markets: Marketing Channels, Trade Practices, and Retail Pricing Behavior. Retail consolidation, technological change in production and marketing, and changing consumer demand have altered the traditional market relationships between producers, wholesalers, and retailers. Increasingly, produce suppliers are asked to provide additional marketing services and incentives in exchange for volume purchases and other commitments by buyers. This study synthesized the results from a multiphase project that examined the dynamics of produce marketing, the produce shipper-retailer relationship, and how changes in the produce market affect the relative market influence of producers, retailers, and consumers.

The Effect of Information on Consumer Demand for Biotech Foods: Evidence from Experimental Auctions. When a food item might be genetically modified (GM) and divergent information about risks and benefits exists, do U.S. consumers value information provided by the label? How is consumer willingness to pay for GM and standard-labeled food items impacted by the divergent information? This study addressed these questions by designing and conducting an experimental auction to elicit consumers' willingness to pay for GM-labeled and standard-labeled foods under different information regimes. The evidence gathered for vegetable oil, tortilla chips, and potatoes show that labels do matter. In particular, under all information treatments, consumers discounted, on average, by 14 percent food items labeled GM. While gender, income, and other demographic characteristics appear to have only a slight impact on consumer willingness to pay for GM foods, information from interested parties and third-party (independent) sources are found to have strong impacts.

Estimating the Public Value of Conflicting Information: The Case of Genetically Modified Foods. Much controversy has been associated with the introduction of GM foods. One important controversy relates to tolerance levels -- the impurity rate that is tolerated before a commodity must be labeled as GM. Currently, the United States has not defined a specific tolerance or threshold level for GM foods. This paper uses data from experimental auctions to test whether consumers prefer non-GM foods with zero, 1-percent, or 5-percent tolerance levels for genetically modified material. We conclude that consumers would pay less for food that tolerates GM material, but the discount is not significantly different for foods with 1-percent and 5-percent GM content.

Specific activities to move the program toward the desired goal

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the USDA objectives of this strategic goal, will include:

- Conducting research to fully comprehend and articulate the effects and impacts of trade agreements, political and economic structural changes, and technological developments on the comparative and competitive advantage of U.S. agriculture.

- Researching and disseminating economic intelligence about the structure, performance, information systems, new technology, and foreign direct investments in the U.S. food manufacturing, processing, wholesale, retail, and food service industries.
- Conduct economic research on new food and nonfood uses, new agricultural and forest products, new food products, alternative fuels, and new processes and other technologies that add value and ascertain their impacts on commodity markets.
- Provide timely and accurate agricultural economic analysis and data on the impacts of decisions in risky situations to help farmers and ranchers make more informed production and marketing decisions.

ERS plans a range of activities to provide policy makers and other decision makers with assessments of current programs and alternative outcomes for pending or prospective policy decisions. Results will help shape the public debate on commodity, technological, economic, and trade issues. These activities, based on the objectives of USDA goal 1 will include:

Analyzing the effects of counter-cyclical payments and related farm payments. This ongoing project poses two fundamental questions. First, who benefits from the payments and what portions of the benefits remain on the farm? Second, do counter-cyclical payments influence recipients' current planting and production decisions and, if they do, how, and by how much? Because counter-cyclical payments interact with other elements of agricultural programs, such as direct payments, marketing loan benefits, and crop insurance, it is necessary to investigate these interactions as well. Progress in answering these questions has been made through development of theoretical models that have been presented at academic conferences and collecting micro data through questions on the 2003 ARMS survey. Analysis of survey results has begun and results will be used to test predictions of the theoretical models.

Global markets for high-value foods. Understanding factors affecting trade in high-value food products is the centerpiece of this project, with consumers at the forefront of the supply chain. The United States has one of the most perplexing trade patterns for high-value food products, including strong growth in imports. This is attributable to a large productive capacity, high-income consumers, heavy involvement in overseas investment in food processing, and brand licensing. Research underway takes advantage of newly available global data sets on the food retail industry and builds on recently completed studies. Questions being addressed include whether finished manufactured food products are under-exported by the United States, whether the U.S. is a net importer of high-value food because U.S. exporters face higher tariffs than those imposed on U.S. imports, or does growing food demand in developing countries benefit the U.S. farm sector.

Market analysis and outlook. ERS will continue to work closely with the World Agricultural Outlook Board (WAOB) and USDA agencies to provide short-term and long-term projections of U.S. and world agricultural production, consumption, and trade. Several initiatives will increase the transparency and accessibility of the data and analysis. One initiative will enhance the transparency of data by providing systematic information about the underlying models used to derive commodity estimates, while another initiative seeks to provide users with more options in the delivery of timely data, such as a queryable format and a variety of output formats.

WTO negotiations and the Doha Development Agenda. The demands of developing countries for developed countries to cut domestic agricultural support, along with exemptions that would limit opening of developing country markets serve as stumbling blocks to reaching an agreement in current WTO negotiations. While ERS analysis of the global benefits of trade liberalization shows potential gains for all types of countries, two important critiques of developing countries are the assumptions about "decoupled" domestic agricultural programs and the fact that the analysis does not include preferential access to developed country markets that developing countries currently receive. ERS research underway seeks to provide information to inform both these questions. Divergent opinions about whether "decoupled" payments affect production and trade stem from different interpretations of how payments are used by farm households. A new modeling framework is being developed that brings household data (from ARMS) into a computable general equilibrium framework that may be better able to model decision-making than current commodity market models. An analysis of preferential trade programs seeks to answer whether short run losses in trade currently protected by preferences will be offset by long run benefits of trade liberalization for all products, including those not eligible for existing preferences.

China in 21st century agricultural markets. China's policies on agriculture and agricultural trade have changed dramatically over the last 20 years, reducing the role of government intervention and centralized planning and

simultaneously increasing the role of market forces. China's membership in the WTO will further increase reliance on market forces. As the incomes of China's 1.3 billion people continue to rise, demand for more and higher quality food products will grow. Domestic production will be unable to meet internal demand and China's demand for agricultural imports will continue to grow, including from U.S. farmers. ERS research continues to examine key factors that will shape the size and pattern of China's agricultural trade: water scarcity, implementation of WTO commitments, and changes in Chinese consumers' demand for food and factors influencing these changes, including the declining role of subsistence farming, effects of urbanization, and the rising demand for convenience.

Coordination issues in the U.S. beef industry. While many structural changes are underway in the U.S. beef industry, these developments are very different than those in the other meat industries. Traditionally, the fresh beef market has been characterized by undifferentiated beef products. Emerging technologies and marketing practices appear to be providing beef marketers with new opportunities to differentiate their beef products. This study will provide insight into changing marketing practices, including those that may facilitate production of differentiated products.

Goal 2: Support Increased Economic Opportunities and Improved Quality of Life in Rural America

Project Statement						
(On basis of appropriation)						
	2004 Actual		2005 Actual		2006 Actual	
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 2:						
Economic Research and Analysis	\$8,308,000	62	\$5,251,000	62	\$5,322,000	63

Describe the program and explain how the program contributes to achieving the goal

ERS research explores how investments in rural people, business, and communities affect the capacity of rural economies to prosper in the new and changing global marketplace. The Agency analyzes how demographic trends, employment opportunities and job training, Federal policies, and public investment in infrastructure and technology enhance economic opportunity and quality of life for rural Americans. Equally important is our commitment to help enhance the quality of life for the Nation's small farmers who are increasingly dependent on these rural economies for their employment and economic support.

ERS continues to monitor changing economic and demographic trends in rural America, with particular attention to the implications of these changes for the employment, education, income, and housing patterns of low-income rural populations. ERS uses the most up-to-date information on the current conditions and trends affecting rural areas and provides the factual base for rural development program initiatives. The rural development process is complex and sensitive to a wide range of factors that, to a large extent, are unique to each rural community. Nonetheless, ERS assesses general approaches to development to determine when, where, and under what circumstances rural development strategies will be most successful.

ERS research and analytical activities are designed to provide an enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues affecting rural development, including factors related to farm finances and investments in rural people, businesses and communities, and of economic issues relating to the performance of all sizes of American farms. These activities support achievement of USDA goal 1, "Enhance Economic Opportunities for Agricultural Producers," and USDA goal 2, "Support Increased Economic Opportunities and Improved Quality of Life in Rural America."

To meet this performance goal, ERS will: identify key economic issues relating to rural economic development and farm viability; use sound analytical techniques to understand the immediate and broader economic and social consequences of how alternative policies and programs and changing market conditions affect rural and farm economies; and effectively communicate research results to policy makers, program managers, and those shaping the public debate on rural economic conditions and performance of all sizes and types of farms.

Selected Examples of Past Performance

Understanding Rural Diversity. The economies of individual rural areas differ, as do their resources and the opportunities and challenges they face. ERS recently released a new county classification (typology) that captures the broad economic and social diversity among rural areas. These typologies are widely used by policy analysts and public officials to determine eligibility for and the effectiveness of Federal programs to assist rural America. The new typology identifies six discrete economic types of nonmetro counties based on the primary economic activity of the county—farming, manufacturing, mining, service, Federal/State government, and other. The typology also identifies seven county types that distinguish important policy themes, including persistent poverty, persistent population loss, housing stress, retirement destination, recreation, low education, and low employment. The ERS county typology, along with newly revised Rural-Urban Continuum Codes and the Urban Influence Codes, underlie the development of Federal policies and programs designed to enhance the capacity of rural residents, their communities, and their businesses to prosper. These typologies will form the basis for an analytical study to assess the determinants and consequences of diversity in rural America.

Measurement, Determinants, and Consequences of Poverty. An ERS study examines the effects of major changes in demographic and economic conditions as well as government policy on rural poverty during the 1990s. During this period, welfare reform simultaneously scaled back the social safety net and increased the incentives towards achieving self-sufficiency for the poor. Also during the 1990s, the rural population grew and both the U.S. and rural economies experienced one of the longest periods of economic expansion. These factors had important implications for changing poverty rates in rural areas. Throughout the history of recording poverty rates, the incidence of rural poverty has been consistently higher than urban poverty. This analysis provides empirical support for the argument that poverty-reduction programs and policies need to include components to target nonmetro areas, and that different policies may be appropriate for different areas. Policies focused on mitigating extreme poverty and providing on-the-job training may be of more value in metro areas, while policies focused on supplemental income assistance for the elderly and disabled may be more effective in nonmetro areas.

Income, Wealth, and the Economic Well-Being of Farm Households. Agricultural policy is rooted in the notion, dating from the 1930s, that providing transfers of money to the farm sector translates into increased economic well-being of farm families. ERS analysis shows that neither change in income for the farm sector nor for any particular group of farm business can be presumed to reflect changes confronting farm households. Farm households draw income from various sources, including off-farm work, other businesses operated and, increasingly, nonfarm investments. Similarly, focus on a single indicator of well-being, such as income, overlooks other indicators such as the wealth held by the household and the level of consumption expenditures for health care, food, housing, and other items. Using an expanded definition of economic well-being, ERS finds that farm households as a whole are better off than the average U.S. household, but that 6 percent remain economically disadvantaged.

Rural Development Strategic Planning and Performance Indicators. USDA's Rural Development (RD) mission area operates a variety of programs designed to help improve the economy and quality of life in rural areas. RD administers financial programs to support essential public facilities and services, such as water and sewer systems and housing; business loan programs to promote local economic development; and technical assistance programs to help rural areas undertake community empowerment programs. ERS provides assistance useful for program planning and evaluation. For example, ERS continues to work with RD staff to define indicators of program success and to identify appropriate data sources to measure performance outcomes and outputs. In 2003, ERS developed a web-based mapping utility used by Rural Business-Cooperative Service (RBS) field staff to determine eligibility for RBS loan programs. ERS advised the RD Under Secretary and senior staff on the effects of changes in the Office of Management and Budget definition of nonmetropolitan and metropolitan areas for RD program eligibility. Also, ERS conducted a regulatory impact analysis of a proposed rule to charge an annual fee on loans made under the Business and Industry Loan Guarantee Program.

Specific activities to move the program toward the desired goal

Research and analysis underway and planned will contribute to enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues affecting rural development, including factors related to farm finances and investments in rural people, businesses and communities, and of economic issues relating to the performance of all sizes of American farms. Examples of these activities will include:

- Develop a comprehensive and integrated base of information about rural economic and social conditions that can be used by Federal policymakers for strategic planning, policy development, and program assessment.
- Undertake analysis that identifies how investment, technology, employment opportunities and job training, Federal policies, and demographic trends affect rural America's capacity to prosper in the global marketplace.
- Expand research to assess the effectiveness of developing profitable alternative crops and on- or near-farm processing that add value to agricultural products and enhance the economic viability of rural communities and families
- Conduct research to identify social and economic issues facing rural communities as they adjust to broad forces affecting their futures, such as changing farm policy, welfare reform, increased foreign competition in low-wage industries, growing demand for highly-skilled labor, an aging population, and rapid growth in communities near major cities.
- Conduct research to better understand the role and effectiveness of investments in infrastructure, housing, and business assistance for sustaining rural communities, particularly in areas characterized by rapid population growth or long-term population decline.

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives of USDA strategic goal 2, will include:

Understanding the role of farm policy in rural development. A critical gap in our current policy research is the lack of information on the relationship between farm policy, farm households, and the rural economy, which is necessary to determine whether current policies and economic strategies are most effectively targeting the needs of an evolving farm and rural economy. If policy reform imposes significant adjustment costs on large numbers of farm households and/or rural communities, is government intervention warranted? If so, what would cost-effective policy intervention look like? Policy adjustment costs for farm and rural economies include those associated with capital and labor moving out of agriculture into nonfarm activities, population loss affecting economies of scale and the local tax base, and new income- and employment-generating strategies to improve job opportunities. An ERS web-based briefing room was developed in 2004 to help fill the information gap on the role of farm policy in rural development and to stimulate new thinking that contributes to the ongoing policy debate. In the spring of 2005, ERS and the National Center for Food and Agricultural Policy will sponsor a policy workshop to broaden the information base available to decisionmakers and address farm policy consequences for farm households and rural America well in advance of the next farm bill. In addition, ERS research has focused attention on the impact of the Conservation Reserve Program on rural areas and will continue to explore the impact of other farm programs on the economic growth of rural communities, businesses, and communities.

Policy implications of changing population in rural America. ERS is at the forefront of demographic and economic rural analysis using 2000 Census data. Working in conjunction with the W-1001 Western Regional Research Committee on Population Change in Rural Communities, ERS will assess the effects of changing demographic, economic, and social patterns on rural communities, labor markets, and local governments. This multifaceted project will help frame rural development policy at the national and regional levels by explaining the changing nature of economic opportunity in rural America and its implications for the well-being of rural people and their communities. In January 2004, ERS and Cornell University held a joint research conference in Washington, D.C. This conference served as a precursor to an edited monograph of 16 commissioned studies that will be published in spring of 2005. The monograph focuses on four critical themes in contemporary rural America: changing population composition; industrial restructuring, globalization, and altered livelihoods; changing land-use patterns; and chronic economic disadvantage. This monograph will report empirical findings from national level analysis and case studies, concluding with policy implications of rural demographic change.

New patterns of Hispanic settlement in rural America. ERS analysis reports that, since 1980, the nonmetro Hispanic population in the United States has doubled and is now the most rapidly growing demographic group in rural and small-town America. By 2000, half of all nonmetro Hispanics lived outside traditional settlement areas of the Southwest. Many Hispanics in counties that have experienced rapid Hispanic growth are recent U.S. arrivals with relatively low education levels, weak English proficiency, and undocumented status. This recent settlement has increased the visibility of Hispanics in many new regions of rural America whose population has long been

dominated by non-Hispanic Whites. Yet, within smaller geographic areas, the level of residential separation between them increased—the two groups became less evenly distributed—during the 1990s, especially in rapidly growing counties. Hispanic settlement patterns warrant attention by policymakers because they affect the well-being of both Hispanics and rural communities. ERS will focus future research attention on the effects of increased Hispanic migration effects on the demand for public services such as schooling, health care, and housing in rural areas.

Education as a rural development strategy. The *No Child Left Behind Act of 2002* created a new era of increased school accountability to ensure that our public schools adequately prepare students for the increasingly high-skill “new economy” in which we now live. However, rural schools and communities present a distinct set of challenges to education reform. Of particular concern are the effects of reforms in those rural areas with poorly funded public schools, low educational attainment, and high levels of economic distress. Findings from a conference sponsored by ERS and the Southern Rural Development Center will be published as special issues of two academic journals, the *Review of Regional Studies* and the *Journal of Research in Rural Education*. Research findings will focus on achievement in rural schools; rural communities, schools, and at-risk populations; schools and local community impacts; and education and the rural labor market. In addition, ERS and Clemson University faculty will continue a collaborative research effort focused on the effects of school quality on individual outcomes such as achievement, attainment, earnings, and identification of major factors that contribute to local development efforts.

Goal 3: Enhance Protection and Safety of the Nation's Agricultural And Food Supply

Project Statement						
(On basis of appropriation)						
	2004 Actual		2005 Actual		2006 Actual	
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 3:						
Economic Research and Analysis	\$3,680,000	20	\$5,561,000	20	\$5,596,000	20

Describe the program and explain how the program contributes to achieving the goal

ERS food safety research focuses on enhancing methodologies for valuing societal benefits associated with reducing food safety risks; understanding consumer willingness to pay for safer food; assessing industry incentives to enhance food safety through new technologies and supply chain linkages; and evaluating regulatory options and change. ERS is working with economists at the Food Safety and Inspection Service to answer certain practical economic questions that arise in the design and implementation of food safety performance standards for meat and poultry.

The Geo-Spatial Economic Analysis (GSEA) team builds on earlier ERS homeland security programs (SAS-USA) and on ERS’s economic, data, and geographic information systems (GIS) capabilities to analyze the economic effects of enhanced security and the potential impacts of accidental or intentional problems in the Nation’s agricultural and food sectors. Analysis conducted by GSEA uses current data and information about the U.S. agricultural and food systems, including resource use, production, processing, distribution, and consumption enhanced by GIS. To prepare for a wide range of analytical requests and to accomplish the specific analysis across a range of businesses in the food and agriculture sectors, GSEA uses a broad database of agricultural production and food industry business information. The database facilitates timely staff analysis, situation and outlook activities, and long-term research and analysis. The information system data allows ERS to perform complex and difficult analyses that support policy decisions made within the Department, as well as conduct basic research about economic relationships within the U.S. agricultural and food sectors.

ERS research is designed to support food safety decision-making in the public sector and to enhance the efficiency and effectiveness of public food safety policies and programs. The program focuses on valuing societal benefits of reducing and preventing illnesses caused by microbial pathogens; assessing the costs of alternative food safety policies; studying industry’s incentives, through private market forces and government regulation to adopt food

safety innovations; and analyzing consumer demand for food safety and the roles of consumer information, attitudes, and behaviors.

ERS research and analytical activities are designed to provide policy makers and other decisions makers with an enhanced understanding of economic issues related to improving the efficiency, efficacy, and the equity of public policies and programs designed to protect consumers from unsafe food. These activities support achievement of USDA Goal 3, "Enhance Protection and Safety of the Nation's Agriculture and Food Supply."

To meet this performance goal, ERS will: identify key economic issues relating to protecting consumers from unsafe food and to protecting the food supply from intentional or non-intentional contamination; use sound analytical techniques to understand the immediate and long term efficiency, efficacy, and equity consequences of alternative policies and programs aimed at ensuring a safe food supply; and effectively communicate research results to policy makers, program managers, and those shaping efforts to protect consumers from unsafe food.

Selected Examples of Past Performance

ERS-GSEA contributed to a number of Homeland Security exercises through estimation of potential economic damages of security threats and the impacts of alternative responses. The ERS GSEA team has enhanced its ability to analyze security-threat scenarios based on the Agency's commodity market expertise and through collaborations with other USDA agencies.

ERS is an active participant in the USDA response to the Homeland Security Presidential Directive No. 9 (HSPD-9) of January 30, 2004, which established a national policy to defend the agriculture and food system from terrorist attacks, major disasters, and other emergencies. ERS has accelerated and expanded the development of its ability to assess the economic effects of the intentional introduction or natural occurrence of catastrophic animal and plant diseases. ERS is working with other USDA agencies to help assess food security implications, and potential economic impacts of an epidemic, as required in the development of a National Plant Disease Recovery System (NPDRS). Additionally, USDA-Economic Research Service (ERS) recently completed a study on *Economic and Policy Implications of Wind-Borne Entry of Asian Soybean Rust into the United States*.

A cost and benefit assessment of alternative animal disease control strategies project is also underway between APHIS and ERS. The project's initial objective is the analysis of alternative control strategies for FMD. The proposed analysis will link APHIS data and epidemiological spread model with ERS economic models for consequence assessment using the GSEA-GIS platform. Given the expected flexibility of the epidemiological, economic and GIS models, a second objective is the expansion of the FMD approach to include other significant animal diseases.

The project will lead to the development of comprehensive research that examines potential border measures by Customs and Border Protection, and the emerging Regional, State Veterinary surveillance Program, as well as other control strategies. The platform will incorporate the ability to regionalize assessment outcomes and generate risk coefficients. An important objective of the project is the assessment of trade effects and the effects of disease control strategies up- and downstream in the supply chain.

Traceability. Food traceability is a salient issue in discussions ranging from homeland security, food safety, country-of-origin labeling, and genetically engineered foods. In March 2004, ERS released a widely cited study that examined the use of traceability in the U.S. food system. The study explored the private and public sector rationale for adapting traceability schemes and provided details of how food firms and the government sector are using traceability systems to meet consumer needs. The findings indicate that mandatory traceability—possibly a one-size-fits-all regulation—can be costly (since firms already trace many food attributes) and that other approaches may be better targeted toward enhancing traceback for food safety. If mandatory systems fail to allow for variations in traceability systems, they will likely end up forcing firms to make adjustments to already efficient systems or to create parallel systems.

HACCP, Food Safety Technologies, and Food Safety Performance. In May 2004, ERS released the results of a nationally representative survey of meat and poultry slaughter and processing plants, designed to collect data on the costs of implementing Hazard Analysis and Critical Control Point (HACCP) requirements and firms' post-HACCP investments in food safety technologies. Continuing research involves linking the new survey data with plant food

safety performance data to (1) examine technology effectiveness, e.g. by linking the data to *Salmonella* and HACCP performance data; and (2) create a baseline technology level which could be used to develop an index of food safety. The index may then be linked to food safety performance data to study how changes in technology lead to changes in food safety performance.

Food Safety and International Trade. Food safety and international trade are increasingly intertwined as new food safety challenges have emerged and as trade has expanded and changed to meet global demand. In November 2003, ERS released a study that examined the conceptual relationships between food safety and international trade, and analyzed empirical examples from the meat and poultry, produce, food crop, and seafood sectors.

Geo-Spatial Economic Analysis Team (formerly known as SAS-USA)

In FY 2004, the ERS GSEA team developed a standalone information system for the USDA- Homeland Security Office to provide spatially oriented economic and production information during emergencies. The user system interface can be used without the participation of ERS experts. The GSEA information system is used to depict the U.S. agriculture/food supply chain, using a description based on existing databases that are spatially enhanced to the sub-county level. GSEA uses economic modeling to connect the various components of the agriculture/food supply chain and to describe its upstream and downstream linkages with other economic sectors (e.g., energy, chemical, etc.), as well as to U.S. food consumers and to international markets.

Specific activities to move the program toward the desired goal

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the USDA objectives of this strategic goal, will include:

- Conduct food safety economics research with the goal of providing a science-based approach to valuing food safety risk reduction, to assessing industry costs of food safety practices, and to understanding the inter-related roles of government policy and market incentives in enhancing food safety.
- Provide the public and decision makers with food safety and biosecurity information through publications, web materials, and briefings that address several economic aspects of food safety, including consumer knowledge and behavior, industry practices, the relationship between international trade and food safety, and government policies and regulations.
- Work with Federal food safety agency partners to evaluate available foodborne illness data related to meat, poultry, and egg products and to develop more accurate measures of the effectiveness of regulatory strategies in reducing preventable foodborne illness.
- Conduct research on consumer awareness of and attitudes toward food safety risks in order to support education and outreach efforts and to improve understanding of the consumer benefits of various regulatory actions.
- Expand research, modeling, and data sources that aid in analyzing emerging, potentially high-risk threats to public food safety.
- Develop research to better understand the economics of trade and invasive species. In particular, how do policies that reduce risk of exposure to new pests through trade restrictions affect commodity prices and U.S. trade?
- Integrate information from biological, epidemiological, and other sciences into economic models to develop credible and concrete bioeconomic risk assessments that will help public agencies allocate resources among programs that exclude, monitor, and control invasive species.
- Provide assessments of policies designed to exclude, monitor, and control invasive pests with regard to the economic efficiency of different prevention and control strategies for invasive species management.

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives USDA strategic goal 3, will include:

Updating societal costs of foodborne illness. ERS has become well-known for pioneering estimates of the societal costs associated with foodborne illnesses due to *E. coli*, *Salmonella*, and other known pathogens. During FY 2003,

ERS released the web-based foodborne illness cost calculator (the Calculator), which allows users to choose a pathogen of interest, the number of cases and severity of illnesses, and from among several alternative methodologies employed by economists for calculating societal costs. The Calculator has homeland security applications for assessing costs of potential outbreaks due to intentional acts as well as natural occurrences. The Calculator allows users to view and evaluate ERS's own recently updated cost-of-illness estimates for Salmonella. Updated estimates for *E. coli* have been developed by ERS during FY 2004, and will be peer-reviewed and added to the Calculator in Spring 2005. The new estimates will capture the impacts of enhanced food safety management technologies employed in the meat and poultry industry.

The economics of performance standards for food safety. A continuing debate centers on the appropriate role for performance versus process standards in managing food safety. Economists typically argue that performance standards are preferable because they allow flexibility in choosing production methods, which encourage efficiency and innovation. ERS has launched a project that analyzes conceptual and practical issues in setting and applying performance standards in the meat and poultry industry, such as benefits and costs of alternative indicators of performance, where to apply standards along the production/supply chain, and how improved pathogen testing technologies affect the design and implementation of performance standards. ERS is collaborating on the research with the Food Safety and Inspection Service, universities, and Resources for the Future. A synthesis report will be released in 2005.

Valuation methods for measuring benefits of improving food safety. This project applies state-of-the-art valuation methodologies to measure the benefits of improved food safety. Two web-based surveys, both reviewed by the Office of Management and Budget in FY 2004, will be administered in 2005 to panels of consumers. One survey uses contingent valuation to assess responses to different information about risk levels, severity, duration, and mortality rates. The other uses a market-based method, measuring how consumers change food intake in response to risk information. The surveys are being conducted by University of Wyoming and Harvard University through cooperative agreements with ERS.

Goal 4: Improve the Nation's Nutrition and Health

Project Statement							
(On basis of appropriation)							
	2004 Actual			2005 Actual			2006 Actual
	<u>Amount</u>	<u>Staff Years</u>		<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 4:							
Economic Research and Analysis	\$11,700,000	50		\$15,928,000	56	\$16,678,000	58

Describe the program and explain how the program contributes to achieving the goal

ERS studies the relationships among the many factors that influence food choices, eating habits, and outcomes. The roles of income, aging, race and ethnicity, household structure, knowledge of diet and health, and nutritional information are of particular interest. Obesity—including understanding its costs to individuals and society, how income and knowledge affect obesity status, and considering private versus public roles in reducing obesity—is an important focus of the current ERS program.

Through the Food Assistance and Nutrition Research Program (FANRP), and working closely with the Food and Nutrition Service, ERS conducts studies and evaluations of the Nation's food and nutrition assistance programs. FANRP research is designed to meet the critical information needs of USDA, Congress, program managers, policy officials, clients, the research community, and the public at large. FANRP research is conducted through internal research at ERS and through a portfolio of external research. Through partnerships with other agencies and organizations, FANRP also enhances national surveys by adding a nutrition and food assistance dimension. FANRP's long-term research themes are dietary and nutritional outcomes, food program targeting and delivery, and program dynamics and administration.

The program provides policy makers, regulators, program managers, and those shaping public debate timely and high quality analyses and data to enhance understanding of economic issues affecting the nutrition and health of the U.S. population including factors related to food choices, consumption patterns, food prices, food security, food assistance programs, nutrition education, and food industry structure. Such understanding underpins the capacity to understand and react to issues surrounding obesity, homeland security, and the responsiveness of the food system to consumer demands in a timely, profitable manner.

ERS research and analytical activities are designed to enhance understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues relating to the nutrition and health of the U.S. population, including factors related to food choices, consumption patterns at and away from home, food prices, food assistance programs, nutrition education and food industry structure. Such understanding underpins the capacity to ensure equitable access to a wide variety of high-quality, affordable food. These activities support achievement of USDA Goal 4, "Improve the Nation's Nutrition and Health."

To meet this performance goal, ERS will: identify key economic issues affecting food prices and food consumption patterns; use sound analytical techniques to understand the immediate and broader economic and social consequences of the changing structure of the food industry and of policies and programs aimed at ensuring consumers equitable access to affordable food and to promote healthful food consumption choices; and effectively communicate research results to policy makers, program managers, and those shaping the public debate regarding healthful and nutritious diets.

Selected Examples of Past Performance

Women, Infant's and Children (WIC) and the Supermarket Retail Prices for Infant Formula. Rebates from infant formula manufacturers to State WIC agencies support over one-quarter of all WIC participants. However, concerns have been raised that WIC and its infant formula rebate program may significantly affect the infant formula prices faced by non-WIC consumers. ERS conducted the most comprehensive national study to date of infant formula prices at the retail level. For a given set of wholesale prices, WIC and its infant formula rebate program resulted in modest increases in the supermarket price of infant formula, especially in States with a high percentage of WIC formula-fed infants. This work from FY 2004 extends an earlier ERS Report to Congress that examined infant formula prices and availability. Research is continuing on factors that affect the wholesale prices established by infant formula manufacturers.

Understanding the Nation's Nutrition Assistance Programs. Several important studies were completed in FY 2003 and FY 2004 that provide policymakers, program agencies, and others with information to improve the USDA nutrition assistance programs. Research on program dynamics and administration resulted in a report that examined changes over time in families' income and Food Stamp Program (FSP) participation, finding that monthly incomes of participating households vary substantially less than incomes of eligible nonparticipating households, many of whom experience a short-term drop in income. Another report on program administration examined such outcomes as staff workload, client access, and quality control errors following the experiences of four States that adopted FSP options made available in the 2002 Farm Act. To improve the usefulness and cost-effectiveness of research on nutrition assistance programs, a set of reports was completed on data-development proposals that examined the possibility of linking various databases, including administrative databases of program participants.

Another major theme in the agency's research portfolio is examination of various outcomes of government assistance programs. One study measured the effect of food stamps on children's overall well-being, based on various poverty measures. Another examined the labor market impacts of the "welfare-to-work" provisions of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). Research on changes in food insecurity conditions over time for a set of families with children resulted in the first longitudinal analysis of food insecurity and hunger, finding that families who were food insecure and receiving food stamps were more likely to remain food insecure if they left the FSP. ERS also continued to publish successive issues of *The Food Assistance Landscape*, a semi-annual periodical that highlights information and research on USDA's food assistance efforts.

Economics of Obesity. The United States has experienced rapid growth in overweight and obesity since the mid-1970s, raising national concerns about the health and well-being of affected individuals. In April 2003, ERS hosted a workshop with top health economists from around the Nation, designed to take stock of the current state of

research on the economic causes and consequences of obesity. Topics included the role of technological change in explaining both the long- and short-term trends in obesity; the role of maternal employment in child obesity; the impact of obesity on wages and health insurance; behavioral economics as applied to obesity; and the challenges in measuring energy intakes and physical activity. The workshop also discussed policy implications and future directions for obesity research. In May 2004, ERS published a comprehensive, non-technical synthesis of the workshop, *The Economics of Obesity: A Report on the Workshop Held at USDA's Economic Research Service*.

Understanding America's Food Choices. Combating obesity will require better knowledge of why people make the food choices they do. A number of projects were completed that enhance understanding of food choices and of potential policy interventions designed to influence them. In FY 2004, ERS published *Low-Income Households' Expenditures on Fruits and Vegetables*, which examined how spending by low-income households would change if they received marginal amounts of additional income. In FY 2004, ERS also completed a study of how a hypothetical tax on consumption of salty snacks would affect calorie intake and tax revenues.

Specific activities to move the program toward the desired goal

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives USDA strategic goal 4, will include:

- Provide economic analysis of the food marketing system to understand factors affecting the availability and affordability of food for American consumers.
- Provide enhanced annual estimates of the quantity of food available for human consumption and measures of disappearance and loss in the food system
- Provide economic analysis of how people make food choices, including demands for more healthful, more nutritious, and safer food, and of the determinants of those choices, including prices, income, education, and socio-economic characteristics.
- Conduct analysis of the benefits and costs of policies to change behavior to improve diet and health, including nutrition education, labeling, advertising, and regulation.
- Conduct evaluation and economic analysis of the impacts of the Nation's domestic food and nutrition assistance programs, including the Food Stamp Program; the Special Supplemental Nutrition Program, for Women, Infants, and Children; the School Lunch Program; and the Child Nutrition Programs.
- Evaluate the dietary and nutritional outcomes of USDA's food and nutrition assistance programs
- Conduct research on food program targeting and delivery to gauge the success of programs aimed at needy, at-risk population groups and to identify program gaps and overlaps
- Conduct research on program dynamics and administration, focusing on how program needs change with local labor market conditions, economic growth and recession, and how changing State welfare programs interact with food and nutrition programs.

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives USDA strategic goal 4, will include:

Food stamp program local office practices. The Food Stamp Program (FSP) caseload declined dramatically in the late 1990s, a period characterized by an unusually strong economy and by enactment of major changes in public assistance by the welfare reform legislation of 1996. To better answer the broad question of what factors influence FSP participation, ERS has been examining the role of local food stamp office policies and practices. Surveys of nationally representative samples of local FSP office administrators, as well as low-income applicants and eligible nonparticipating households, were conducted in 2000-2001. Some descriptive data have been released, and a final report detailing the findings will be published by fall of 2005.

Expert review panel examines food security measurement. In the 1990s, a Federal interagency working group developed a food security survey module to measure conditions and behaviors in U.S. households that face challenges in putting enough food on the table. A substantial body of survey data has been collected and used to

conduct research on food security and hunger. Objectives of the Food and Nutrition Service's 2000-2005 Strategic Plan make use of food security statistics. At this 10-year anniversary of the inception of food security measurement, this project provides ERS with support for a National Academy of Sciences panel to review the conceptualization and methods for measuring food security for monitoring, evaluation, and related research purposes.

Food assistance and nutrition research program. Through FANRP, ERS conducts studies and evaluations of the Nation's food and nutrition assistance programs. FANRP research is designed to meet the critical needs of USDA, Congress, program managers, policy officials, USDA program clients, the research community, and the public at large, concerning the design and effectiveness of food and nutrition assistance programs, diet quality, and nutrition education. FANRP research is conducted internally at ERS and through a portfolio of external research. Through partnerships with other agencies and organizations, FANRP is enhancing national surveys by adding a food and nutrition assistance dimension. FANRP's long-term research themes are dietary and nutritional outcomes, food and nutrition program targeting and delivery, and program dynamics and administration.

Strengthening the data infrastructure to understand food consumption and health outcomes in America. Food consumption-related responsibilities are shared by several USDA mission areas and encompass food assistance, nutrition guidelines and education, food safety, market promotion, and market information. Food consumption data is essential to effective program management and assessment of program outcomes and effectiveness, yet few resources are devoted to consumption data collection, development, or management. ERS has sponsored an assessment by the National Research Council's Committee on National Statistics of statistical approaches to strengthening USDA's food consumption data infrastructure. The panel held a workshop in May 2004, and will issue a workshop report in early FY 2005. A full deliberative study may follow. With an increased appropriation in FY 2005, ERS will develop and implement the Flexible Consumer Behavior Survey Module, a comprehensive data module focused on consumer behavior -- particularly dietary knowledge and attitudes, and awareness of diet-health relationships. The goal is to combine this behavioral module with the National Health and Nutrition Examination Survey (NHANES), managed by the National Center on Health Statistics, in order to link data on knowledge and attitudes with data on food intake, dietary status, and health outcomes. Ultimately, research based on the integrated data will inform the development of public strategies to improve the healthfulness of American diets and to reduce the prevalence of obesity.

Obesity and Nutrient Consumption. Existing research on the economic causes of the prevalence of obesity cites technological changes that have led to reduced food prices as well as reduction in calories expended through either work or leisure activities. Although studies develop comprehensive models that incorporate potential explanations from both sides of the energy balance equation (i.e. weight gain = calories in – calories out), none address the type and amount of foods that are consumed as a likely cause. USDA statistics show a remarkable rise in the total amount of calories consumed from refined grains (carbohydrates), a nutrient typically associated with obesity. Why do individuals consume more of a particular nutrient than is required to maintain health?

Goal 5. Protect and Enhance the Nation's Agricultural Resource Base and Environment

Project Statement						
(On basis of appropriation)						
	2004 Actual		2005 Actual		2006 Actual	
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 5:						
Economic Research and Analysis	\$10,978,000	67	\$8,068,000	67	\$8,177,000	67

Describe the program and explain how the program contributes to achieving the goal

ERS is expanding its research program on invasive species that affect livestock and crop production and the programs to control them. This activity contributes to Departmental efforts to prevent or control invasive species. An important concern is reducing the economic risks of invasive species to U.S. agriculture while preserving economic gains from trade and travel. ERS and APHIS created an Invasive Species Working Group to suggest how

economic analyses can better contribute to pest risk assessments and control decisions by both the public and private sectors. ERS is engaged in on-going evaluation of the research being produced through its external grants program.

One important aspect of the new Farm Bill is the shift in emphasis in conservation support from land retirement to conserving while farming the land. Recognizing this shift, ERS has launched a research project to examine the two primary working lands programs – the Environmental Quality Incentives Program (EQIP) and the new Conservation Security Program (CSP) – individually and in combination. That project will fill a large gap in the knowledge base relating to the implications of the myriad of decisions necessary to design a working lands program. Many decisions needed to implement current working land programs have yet to be made or may be revisited over the next few years. Importantly, this project will focus on coordination between EQIP and CSP, an issue that has yet to be addressed in research or in the policy process.

In addition, ERS is continuing to contribute to the Department's efforts to improve the science behind Federal water quality and air quality regulations and programs. As part of its analysis of environmental regulations and conservation incentive policies, ERS is evaluating the coordination of policies to achieve multiple goals from agricultural operations. ERS is continuing to explore the benefits of coordinating environmental quality policies across different media (e.g. air and water) when pollutants originate from the same source (e.g. confined animal feeding operations). ERS research continues to provide insights into the development of policies for controlling non-point source pollution.

ERS research and analytical activities are designed to provide an enhanced understanding by policy makers, regulators, program managers, and those shaping the public debate of economic issues relating to development of Federal farm, natural resource, and rural policies and programs to protect and maintain the environment while improving agricultural competitiveness and economic growth. These activities support achievement of USDA Goal 5, "Protect and Enhance the Nation's Natural Resource Base and Environment."

To meet this goal, ERS will: identify key economic issues relating to interactions among natural resources, environmental quality, and the agriculture production system; use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs to protect and enhance environmental quality associated with agriculture; and effectively communicate research results to policy makers, program managers, and those shaping public debate regarding agricultural resource use and environmental quality.

ERS supports the USDA Food Quality Protection Act activities and Integrated Pest Management and Related Programs crosscut through its research on how economic issues affect farmers' choices among alternative pest management practices and technologies. ERS supports the Invasive Non-Native Species crosscut by improved economic estimates of the risks posed by non-native weeds.

ERS supports the USDA biotechnology Coordinating Council and interdepartmental efforts with FDS and EPA in the USDA Biotechnology crosscut through research addressing both product impacts for farmers and industry behavior and potential impacts from industry concentration in this area. Research and related data collection efforts are designed to capture this rapidly emerging and turbulent technological change.

Selected Examples of Past Performance.

Invasive Species. ERS research on invasive species focuses on informing USDA decisionmakers about the economic effects of alternative policies and programs. An analysis of soybean rust in FY 2004, *Economic and Policy Implications of Wind-Borne Entry of Asian Soybean Rust into the United States*, examined how the economic impacts of the potential establishment of an invasive species – soybean rust – would depend on the timing, location, spread, and severity of rust infestation and on how soybean and other crop producers, livestock producers, and consumers of agricultural commodities respond to this new pathogen. This report provided decisionmakers with timely research and analysis in light of the discovery of soybean rust in the United States later in 2004.

Conservation Reserve Program (CRP). Anecdotal evidence suggests the USDA Conservation Reserve Program (CRP), a land retirement program established in 1986, has negatively affected some rural communities. For a Congressionally-mandated study, ERS statistically evaluated county socioeconomic trends before and after CRP was implemented and found the aggregate impacts of the CRP on rural communities to have been limited. The ERS

report found that high CRP enrollment did not significantly affect rural population trends. Furthermore, while CRP enrollment was associated with some loss of jobs in rural counties between 1986 and 1992, this negative relationship did not persist throughout the 1990s. ERS found no statistically significant evidence that CRP participation encourages absentee ownership, or that CRP participation affected local government services or tax burdens in a systematic way. ERS research also indicated that the CRP's effects on wildlife and water quality led to an increase in expenditures on outdoor recreation of as much as \$300 million per year.

Environmental Compliance. ERS released a report on USDA compliance mechanisms, *Environmental Compliance in Agriculture: Past Performance and Future Potential*. Since 1985, U.S. agricultural producers have been required to practice soil conservation on highly erodible cropland and conserve wetlands as a condition of farm program eligibility. Evidence suggests that these compliance mechanisms – Conservation Compliance, Sodbuster, and Swampbuster – have helped reduce soil erosion and preserve wetlands. Extending compliance to nutrient management in crop production could yield additional environmental gains.

Regulations for Land Application of Manure from Confined Animal Feeding Operations. ERS served an important role in the design of recent EPA water quality regulations for confined animal feeding operations. As a result of ERS analysis of the cost-effectiveness of alternative options for restrictions on land application of animal waste, EPA shifted to a more cost-effective option in its final regulations. The ERS researchers were awarded high-level recognition from both EPA (Bronze Medal) and from USDA (Secretary's Honor Award).

Specific activities to move the program toward the desired goal

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives USDA strategic goal 5, will include:

- Provide assessments of policies designed to exclude, monitor, and control invasive pests with regard to the economic efficiency of different prevention and control strategies for invasive species on public lands.
- Characterize how changes in land management and shifts in agricultural land use—particularly the movement of land into and out of crop production—and the economic and environmental effects of these changes, including impacts on carbon sequestration, soil erosion, biodiversity, and nutrient management. Determine what economic and policy factors have prompted shifts between crop production and other land uses.
- Provide an assessment of the extent and spread of contracting and other structural change in production agriculture and outline the basic economics underlying why farmers and processors have made these changes. Summarize evidence on the environmental and economic effects of contracting and highlight emerging policy issues created by expanded contract use and structural change, including impacts on animal waste management.

Future research and analysis will build on the successes of past performance, such as the examples cited above, to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy and decision makers. These activities, based on the objectives USDA strategic goal 5, will include:

Program of Research on the Economics of Invasive Species Management (PREISM). The Program of Research on the Economics of Invasive Species Management (PREISM) funded 12 multi-year agreements through a peer-reviewed, competitive process with \$1.5 million in FY 2003 and with \$1.1 in FY 2004. Recipients of PREISM FY 2003 funding participated in a workshop to share their initial research findings with staff from ERS, APHIS, and other Federal agencies that manage invasive species. The program priority research areas, which were identified by ERS, in consultation with USDA's Animal and Plant Health Inspection Service and other USDA agencies and offices with programs related to invasive species, cover: the economics of trade and invasive species; bio-economic risk assessments; implications of alternative approaches to invasive pest exclusion, surveillance, and management; and decision tools for invasive species management.

Integrating USDA surveys to evaluate conservation programs: This ambitious project involves a joint effort between ERS, the National Agricultural Statistics Service, and the Natural Resources Conservation Service to integrate two major surveys based on different sampling frames. Once the integration is achieved, USDA will have a greatly improved capability to analyze the implications of USDA conservation programs, in addition to improving the cost-

effectiveness of the departmental surveys and reducing respondent burden. For the Conservation Effects Assessment Project (CEAP), a National Resource Inventory-based conservation practice survey was designed to assist NRCS evaluate the environmental benefits of conservation programs funded through the 2002 Farm Bill. The Agricultural Resource Management Survey (ARMS) is a multiphased, field/farm-based survey used to support the ERS and NASS environmental and economic statistics programs. ERS researchers are contributing their expertise to developing a joint ARMS/CEAP questionnaire, which will be used in a 2004 pilot survey of wheat farms. The current plan calls for expanding the ARMS/CEAP integration process to the whole sample.

Conservation policy on working lands. The Farm Security and Rural Investment Act of 2002 redresses the past imbalance in USDA conservation programs toward land retirement, by providing a major increase in funds to promote stewardship on working lands. An ERS research project is identifying issues in the design of working land policies and the potential economic and environmental impacts of alternative designs. It also considers how the findings could apply to the implementation of the Environmental Quality Incentive Program, the prominent working land program to date, and the newly introduced Conservation Security program, the first-ever entitlement agri-environmental program. These two programs pursue similar environmental goals, but they differ in terms of eligibility, payment base, and incentive structure.

ERS supports the USDA Food Quality Protection Act activities and Integrated Pest Management and Related Programs crosscut through its research on how economic issues affect farmers' choices among alternative pest management practices and technologies. ERS supports the Invasive Non-Native Species crosscut by providing improved economic assessments of the risks posed by non-native weeds.

ERS supports the USDA Biotechnology Coordinating Council and interdepartmental efforts with the Food and Drug Administration and the Environmental Protection Agency in the USDA Biotechnology crosscut through research addressing both product impacts for farmers and industry behavior and potential impacts from industry concentration in this area. Research and related data collection efforts are designed to capture this rapidly emerging and turbulent technological change.

Partnerships

Because ERS's economic analysis covers all aspects of USDA's mission the crosscuts between ERS research and the missions and goals of other USDA agencies are extensive and complicated. ERS's unique contribution is provision of external economic analysis. One example relating to competitiveness is ERS's close work with the Foreign Agricultural Service, World Agricultural Outlook Board, and the Office of the U.S. Trade Representative to analyze the international agriculture and trade effects of the World Trade Organization (WTO).

ERS works with the National Agricultural Statistics Service to provide a comprehensive annual source of data to monitor the economic contribution of farming to the national economy, assess the performance of farms, and determine the well-being of farm households. In addition, ERS county classifications are essential to other Federal agencies, such as the the U.S. Department of Health and Human Services (HHS) that administer programs in rural areas. The new HHS Frontier Communities Program designed to provide health assistance to needy rural areas will draw heavily from ERS county classifications to determine program eligibility. ERS's unique contribution is provision of external economic analysis and the most current comprehensive data for analysis.

ERS is a member of the USDA Food Safety Risk Assessment Committee, along with the Agricultural Research Service (ARS), the Food Safety and Inspection Service (FSIS), the Food and Nutrition Service (FNS), the Farm Services Administration (FSA), the Cooperative State Research, Education and Extension Service (CSREES), and the Office of Risk Assessment and Cost-Benefit Analysis (ORACBA). ERS's unique contribution is the provision of economic analysis to complement food safety risk assessments.

ERS, along with APHIS staff are teaming with animal disease control/mitigation researchers at the National Labs (Sandia, Livermore, and Los Alamos), and the new DHS-funded Foreign Animal Disease Center of Excellence at Texas A&M University. The effort will aid research endeavors and reduce the possibility of redundant projects at the various institutions.

ERS's priority setting process for economic research on food and nutrition is an example of cooperative efforts relating to food and nutrition research. This process is launched with a conference where Federal policy officials both within and outside USDA, Congressional staff, public and private sector researchers, and representatives from public interest groups provide input to the identification of research priorities for the ERS Food and Nutrition Research Program.

ERS works with the Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FS) to support formulation and implementation of the Conservation Security, Conservation Reserve, Swampbuster, and the Environmental Quality Incentives programs. Such activities bring ERS staff in cooperation with the Department of Interior and the Environmental Protection Agency, as do ERS efforts to improve understanding of the economics of integrated pest management and resource-conserving production practices. ERS's unique contribution is provision of external economic analysis.

External Factors

The globalization of all aspects of the food and fiber system is a major external factor affecting American agriculture. From competitive markets around the world, to diseases that know no national boundaries, to population growth, population mobility, and evolving diets, profound changes are taking place in agricultural markets worldwide. These changes have led to a dramatically new trade environment, threats of exotic diseases and pests to domestic production, and international controversies over the use of biotechnology. To remain competitive, the food and agriculture sector relies on research, analysis, and data to respond to these factors.

Achievement of this goal depends on the range of external factors that affect economic activity in rural America. These factors include, but are not limited to, the levels of funding Congress provides for USDA and other programs designed to expand economic opportunities and enhance quality of life in rural America.

The market disruptions caused by the discovery of BSE in North America, and outbreaks of exotic Newcastle disease and Avian Influenza highlight the potential economic consequences of threats to the agricultural and food supply chains. The introduction of threats to the agriculture and food sectors—whether accidental or intentional—

that may pose a threat to human health and to the environment, making prevention, early detection, identification, and rapid control or eradication a vital challenge.

The key to achieving the goal of a safe, well-nourished nation is to initiate and integrate a multi-disciplinary approach to issues in the areas of food security and obesity. These areas pose daunting challenges that no single discipline can solve. Teams from a wide variety of professions must work together to achieve the objective of lowering obesity rates and securing our food supplies. Likewise the marketing and product development challenges of the future will require vast expertise in multiple areas if the U.S. food system is to remain the world leader. ERS's success in this program area will depend on our ability to marshal external resources, including both people and data, to successfully meet our obligations.

Agricultural lands are co-mingled with urban and developing land as part of watersheds and ecosystems. Activities taking place in parts of forests, lands or watersheds outside USDA influence can offset the effects of improved management on agricultural land, so that the state of the whole watershed may fail to improve as much as expected.

Human Capital Management

ERS continues to focus on leveraging the talent of its 425 employees, who provide economic and other information and analysis to public and private decision makers engaged in agriculture, food, natural resources, and rural development. Information and analysis are provided through articles, reports, and briefing rooms on the ERS website; databases; internal analyses for policymakers; and briefings and presentations. Through such activities, ERS provides decision makers with economic and social science analysis that helps them promote agricultural competitiveness, food safety and security, a well-nourished population; environmental quality; and a sustainable agricultural system.

Achievement of the ERS mission depends in part on fostering a working environment in which all employees are supported to reach their full potential in contributing to the success of the agency's mission. Resources necessary to accomplish this initiative are reflected throughout the ERS program of research and analysis.

Through strategic management of human capital, ERS seeks to attract and retain the right level and mix of employee skills and abilities to meet mission requirements. To maintain our status as the premier provider of social science analysis in agriculture, ERS is developing a more strategic approach to retaining and developing talent that has cutting-edge skills to support its diverse expertise.

Achieving the objectives mentioned above requires investments in further developing employees and helps them reach their maximum potential and productivity. Analysts must become increasingly flexible, agile learners who are able to move across issue areas with relative ease. IT and other support staff need to maintain fluency in established and emerging technologies to enhance the agency's ability to analyze data and underlying economic trends and to improve communication with our customers. Employee skill enhancement includes:

Deepening managerial skills. ERS provides training in personnel and other management issues to develop the management skills of new managers and refresh the knowledge of experienced managers.

Enhance professional development. Given the knowledge-intensive nature of the ERS mission, ERS places a high value on routine professional development by ERS economists. In addition to training on specific technical skills, economists stay abreast of changes in their field of expertise through regular attendance at professional conferences, workshops, or seminars in their area of expertise. In addition, the agency uses an internal peer review system for social science positions called the Economist Position Classification System. All non-management social science positions are subject to regular review under the system.

Technology skills to reap continued efficiency gains. Technical staff receives regular training to keep abreast of latest technological changes affecting information technology and dissemination. Such regular training ensures that ERS continues to reap efficiency gains from adapting new technologies to meet the ERS mission. Ongoing activities in this area include adopting technologies to reap the benefits of eGovernment initiatives for ERS customers. The agency regularly seeks to develop new and innovative methods of information dissemination, major website redevelopment, to aimed at establishing the World Wide Web as the Agency's primary means of dissemination of its research and analysis.

Use of the Research and Development Investment Criteria at ERS

he long-term key performance outcome across USDA and agency goal areas is the successful execution of the ERS program of economic research and analysis to provide policymakers, regulators, program managers, and those shaping the public debate on agricultural economic issues with timely, relevant, and high-quality economic research, analysis, and data to enhance their understanding of economic issues affecting food and agriculture. A general discussion of performance measurement follows.

ERS research and management practices use many methods to apply the research and development investment criteria. These practices are designed to ensure that the direction of agency research activities reflects current and anticipated needs of ERS stakeholders and customers, that research and analysis produced by the agency adheres to disciplinary standards to ensure the highest possible quality, and that the agency's research products are delivered in a way that is accessible to customers.

The agency's budget decisions are also informed by an annual review of the Research, Education, and Economics mission area portfolio by the National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board (the Board). As required by statute, the Board conducts the portfolio review with regard to its relevance to priorities and adequacy of funding and considering funding allocation across research programs, as well as needed increases. The recommendations in the Board's spring 2004 report provided useful input to the REE mission area and ERS FY 2006 budget process.

Principal practices to ensure research quality

ERS staff publishes research and analysis in a variety of outlets such as research monographs, ERS periodicals, journals, and presentations outside ERS. For all products, the overriding objective is high-quality economic analysis and communication of findings. Review and clearance is a collaborative process that begins with defining the questions and hypotheses to be investigated and selecting the appropriate methodologies. Official review and clearance guidelines are designed to ensure high-quality analysis.

All products must meet disciplinary standards for quality and must receive substantive peer reviews by qualified experts who have the background, perspective, and technical competency to provide a meaningful assessment of the research design and findings. Reviewers are composed of a mix of individuals outside the author's immediate work unit and at least one from outside the agency. In addition, publications that involve other Federal programs must be reviewed by researchers/analysts from the relevant program agency.

ERS economic research and analysis includes two extramural research programs, the Food Assistance and Nutrition Research Program (FANRP), and the Program of Research on the Economics of Invasive Species Management (PREISM). FANRP's competitive grants and cooperative agreements fund research on strengthening economic incentives in food assistance programs; food assistance as a safety net; and obesity, diet quality, and health outcomes. PREISM examines the economic issues related to managing invasive pests in increasingly global agricultural markets. The ERS program focuses on national decision-making concerning invasive species of agricultural significance affecting, or affected by, USDA programs. Both programs are publicly announced and competitively awarded through the use of external peer review panels.

Economist and social scientist positions at ERS are subject to regular review under the Economic Position Classification System (EPCS) process. EPCS is a peer review process that examines the accomplishments of individual economists and social scientists to ensure their positions are classified properly. EPCS is based on the "impact of the person on the job" concept, which recognizes the fact that what a person does and how he or she does it can in fact alter the very nature of the job.

Principal practices to ensure research relevance

ERS interacts with stakeholders and customers in many ways to ensure that the research agenda focuses on topics relevant to public and private decision-makers. One example of such interaction centers on involving stakeholders in discussions of potential research issues relevant to a given area. ERS regularly convenes workshops, stakeholder sessions, or other meetings in which the results of recent agency research are discussed, upcoming policy issues are identified, and questions for future research are explored. In this way, interaction with stakeholders and customers helps sharpen the agency's research focus to better anticipate future needs for public and private decision-makers.

Another method to ensure relevance of agency research and analysis centers on ERS strategic planning processes. Strategic planning processes at ERS involve discussions with stakeholders on retrospective assessment of research accomplishments and agency impact, identification of key policy areas for potential future impact, and establishing research program priorities. The NAREEE Advisory Board portfolio review with regard to relevancy and adequacy of funding also informs the formulation of the research agenda.

In addition to efforts to ensure the relevance of long-term research, ERS also asks customers to assess the relevance of staff analysis provided in response to policy or analytical questions posed directly to ERS by USDA or other government officials. ERS uses a short questionnaire to sample customers of staff analysis to gather feedback from them about relevance, usefulness, timeliness, and accessibility of the product delivered. The instrument provides valuable insight into the relevance of information from ERS in informing decisions by key policymakers. The ERS magazine, *Amber Waves*, relates ERS research to current events in a way that highlights its usefulness and relevance. In 2004, the National Association of Government Communicators (NAGC) recognized *Amber Waves* as the best national magazine published by a Federal, State, or local government. NAGC sponsors an annual competition, the Blue Pencil (print) and Gold Screen (electronic) Awards, recognizing excellence in written, filmed, audio/videotaped, published, and photographed government information products. In a tough competition judged by experts in the communications field, *Amber Waves* received a first place award in its first year of publication.

Principal practices to assess performance: key performance measures

ERS employs several practices to assess performance of the agency's research program. These activities are designed to identify how ERS research contributes to discussion of issues in a sector, how effectively agency information is communicated to customers, and how the efficiency of the program can be improved.

Identifying external impacts of ERS research

An important indicator of a high-performing research institution is evidence of use of research findings among the agency's targeted customer base. Information about project impacts describes the major external uses or effects that can be traced to the project. Users of ERS research findings may discover valuable insights relevant to their needs, or may find their thinking on a topic stimulated in new ways. In short, impact information can help provide an indication of the effect that our research has on informing decision-makers. Examples of impacts show that the results of ERS research are either being adopted in the broader policy community, stimulating or informing related research outside of USDA, informing thinking and debate by others in the issue area, or otherwise contributing to better-informed discussion of agricultural policy issues.

Web analytics

The ERS website is the principal method for dissemination of research results, analysis, and data to agency customers in the public and private sectors. As such, it provides a vital link for communicating the results of research with external groups, providing access to agency data and analysis tools, and serving as a gateway to ERS experts. Website statistics, therefore, provide an important element of a broad effort to measure program activities. Currently, ERS uses web server log file analysis to provide a broad range of indicators on the effectiveness of the website in communicating ERS research and analysis. These include website visits, search terms, popular products, and external links to the site. In addition, ERS is supplementing this rich data source with a more comprehensive approach to web metrics. The analysis is organized around several key objectives for the website: reach, relevance, packaging, access and collaboration, quality, and operations. These website objectives are rooted in the mission of the agency and provide a link to indicate the effectiveness of the website in enabling the agency's mission. For each objective, ERS is developing a set of indicators designed to measure how well the website is contributing to these objectives in support of the ERS mission. Specific measurement instruments include:

- ERS asks a sample of website visitors to rate their satisfaction with the website. The survey, based on the American Customer Service Index, provides an indication of customer satisfaction with the relevance, quality, and performance of the website.
- The relevance of ERS research and analysis to external customers can be gauged by relating website statistics with specific, high-profile external events, such as the U.S. case of bovine spongiform encephalopathy, the discovery of soybean rust in the United States, hurricane damage to vegetable crops in Florida, etc. In this way, the relevance of ERS materials to public and private decisionmakers can be inferred as demand from external groups and can be shown to increase dramatically along with specific events that precipitate a need for information and understanding of an issue by decisionmakers.

- Performance and quality can be assessed through a set of website statistics to indicate web operations and effectiveness.

Process efficiencies

Another example of ERS program performance is the implementation of process efficiencies that streamline internal work functions and improve customer service. ERS continues to release more data and improved interactive databases via the ERS website. These products allow user-customized reporting for several of the databases. These data releases meet many important goals in support of the ERS mission and improved efficiency in program management. These include better achievement of the agency's mission, and key outcome, of informing and enhancing public and private decision-making on economic and policy issues related to agriculture, food, the environment, and rural development; improvement in customer service by increasing the ease and accessibility by ERS customers to data underlying the Economic Research and Analysis program; achievement of better program administration through more efficient use and sharing of data within ERS; delivery of data in accessible formats to allow ERS customers to manipulate data in a variety of electronic formats; and greater transparency of data sources to increase understanding of how data sources are used in ERS research and analysis.

Timeliness of staff analysis

Another example of ERS program performance is indication of response time for meeting requests from external customers for tailored information and analysis. ERS provides a broad range of data and research materials for public and private decision-makers to use in their analysis of economic issues affecting the food and agricultural sector. Throughout the year, policy officials from USDA agencies or outside of the department request that ERS provide analysis regarding a specific question of interest to the requestor. Such questions, referred to as staff analysis, provide policymakers with assessments relevant to their particular questions, and are typically requested on the basis of a quick turnaround. A measure of agency efficiency, and responsiveness to such customers, is the timeliness with which responses are provided to the customer. Over the last five years, ERS staff analysis has met predetermined deadlines for over 90 percent of all such requests. Target performance for FY 2006 is to complete 95 percent of staff analysis requests within pre-established deadlines.

Key Performance Target

Performance Measure:	2001	2002	2003	2004	2005	2006
Requested analysis delivered by deadline	Actual	Actual	Actual	Estimate	Target	Target
Percent	94	94	95	94	95	96

Influence of the R&D investment criteria on management and budget decisions

The sections above summarize principal agency practices to ensure that the agency's management practices adhere to high standards of relevance, quality, and performance. This section summarizes the influence of the R&D investment criteria on management decisions and on formulation of the proposed budget initiative for FY 2006.

Interaction of agency management and economists with customers and stakeholders as part of strategic planning activities is one method used to ensure the relevance of ERS research. Through such activities, customers and stakeholders provide their judgment on the usefulness and applicability of ERS research and analysis to their needs for policy analysis or decision-making. Such interaction provides the opportunity to determine the degree of relevance of various programs of work to such key outside groups. Information and insight obtained is then used by agency management to refine the scope and direction of the ERS program of economic research and analysis. Interaction with stakeholders is used to help set research priorities for the FANRP and PREISM extramural research programs. In FY 2004, ERS management used information and insight from stakeholders and customers to refine core research areas to further enhance the relevance of agency research. As a result, to better reflect the needs for relevant research and analysis by agency customers, research activities in some areas were augmented either through hiring or the transfer of individuals. In other areas, the emphasis of agency resources was diminished or more moderately adjusted.

As noted above, several practices are used to ensure that agency research is produced to meet the highest disciplinary standards of quality. Peer review practices for agency research products provide an assessment of the adherence of ERS research to disciplinary standards. As such, peer reviews result in validation of research activities, highlight areas for modest revision, or provide direction for substantive clarifications, whether of findings or methods.

Research funding for the FANRP and PREISM programs use a merit-based process to allocate extramural research funds. The funds are allocated through use of external review panel assessment of research proposals. This process ensures that the highest standards of research quality are used to make judgments about allocation of extramural research funds.

Another method that is used to ensure high quality research is produced at ERS is the regular review of individual research positions. Through this process, research positions are reviewed to assess the impact of the individual on the job. Each year, through the reviews, a portion of all social scientist positions is assessed. All positions are reviewed at a maximum five-year interval. The result of the assessment is a determination of whether the contribution of the individual to the position since the prior review merits a change in the grade level classification of the position. Summary statistics of the review outcomes show that over time, the majority of positions tend to remain in the same grade, while the remainder is subject to promotion.

Several sources of information are used to make management decisions about the performance of the agency research program. Website statistics provide a wealth of information about the type of research that is being accessed over the Internet, along with general information about customer categories. Customers of agency staff analysis are sampled to obtain their assessment of the relevance, quality, and accessibility of ERS responses to their requests for analysis. Information on external impacts of agency research provides insight into how agency research is used by external customers. Data about the type of material and the method of delivery (print, web, staff analysis, etc.) are assessed to understand which elements contribute best to agency effectiveness. Insight obtained from analyzing such data is used to design new or improved communication and dissemination strategies and to refine the relevance of the research program activities. In FY 2004, for example, ERS launched *The Weekly Digest*, a weekly information service for top USDA officials to help them link ERS research to today's issues.

The budget proposal for FY 2006 includes \$5.8 million for the Consumer Data, Marketing Surveillance, and Behavioral Research Initiative. This initiative will develop a Food Market Surveillance System and a Rapid Consumer Response Module to provide timely consumer information on a wide variety of economic and social phenomenon.

The proposed budget initiative was developed to strengthen the relevance, quality, and timeliness of ERS work. The initiative reflects customer priorities that were identified through consultation with stakeholders and in agency strategic planning activities. The initiative was developed out of a recognition that such data would contribute to the USDA and REE strategic goal 4: Improving the Nation's Nutrition and Health. The proposed budget initiative would meet stakeholder and customer goals for enhancing further the relevance of agency research by significantly expanding USDA's Consumer Data and Information System. This data and information would increase the quality and timeliness of research and analysis on economic issues affecting the nutrition and health of the U.S. population. These factors include insight related to food choices, consumption patterns at and away-from-home, food prices, food assistance programs, nutrition education, and food industry structure, all of which are issues of concern to public and private decision-makers alike.

ERS Performance Management Framework

Central to effective performance by ERS is successful completion of planned research that enhances understanding by policymakers, regulators, program managers, and those shaping the public debate of economic issues related to enhancing economic opportunities for agricultural producers. Effective performance of economic research and analysis can be assessed through an integrated suite of measures designed to provide an indication of different aspects of program performance. The key challenge for providing an overall assessment of research program performance is to integrate the measures in a way that, taken together, can provide a comprehensive view of program performance.

ERS Portfolio Assessment

Criteria	Assessment Criteria	FY 2004 Target	FY 2005 Target	FY 2006 Target
Relevance	<ul style="list-style-type: none"> • Relevance of program objectives to national and customer needs • Identification of emerging issues 	Successful	Successful	Successful

	<ul style="list-style-type: none"> • Portion of agricultural policy decision-events supported by ERS research and analysis 			
Quality	<ul style="list-style-type: none"> • ERS research done to disciplinary standards. • Portion of ERS research reports peer-reviewed by faculty from leading agricultural economics schools • Merit-based process for allocating extramural research funds 	Successful	Successful	Successful
Performance	<ul style="list-style-type: none"> • Volume of ERS material that is transmitted to public and private sector users seeking economic data and analysis, primarily through electronic access. • Documentation of program plans, goals, and priorities • Stakeholder and customer feedback/assessment 	Successful	Successful	Successful

The framework for assessing the performance of the ERS economic research and analysis program centers on adherence to the R&D Investment Criteria principles of relevance, quality, and performance (described below). Agency assessment practices described above provide a broad framework for assessing success in achieving these criteria. The degree of success can be further assessed through application of a quantitative performance assessment tool that considers factors key to successful research, based on relevance, quality, and performance. The tool consists of a multi-category performance indicator to establish a point score across the categories. A key component of evaluating agency performance in these areas will be program evaluations conducted by outside review panels. Panels will assess relevance, quality, and performance of agency programs based on the assessment criteria discussed above and which are summarized below. These criteria, taken together, will provide an indication of agency performance. Both the panel reviews and the quantitative performance assessment process will be introduced in FY 2005.

ERS Performance Management Framework and the R&D Investment Criteria

Criteria	Assessment criteria	Supporting materials
Relevance	--Relevance of program objectives to national policy and customer needs through contribution of research to policy discussions --Identification of emerging issues through ERS research and analysis --Stakeholder and customer feedback/assessment of the usefulness, relevance, and accessibility of ERS research and analysis -- NAREEE portfolio review of relevance of REE programs to priorities	--Examples of external impacts of ERS research --Documentation of program plans, goals, and priorities --Feedback from staff analysis customers --Refinement of ERS core research area --Summary of interactions with stakeholders and customers --NAREEE assessments
Quality	--Research is peer-reviewed to ensure adherence to disciplinary standards --Competitive, merit-based process is used to allocate extramural research funds --Research positions are regularly reviewed to assess the impact of individual on the job --Cooperative research agreements promote and facilitate partnerships in support of research of mutual benefit to each party	--Agency peer review processes --Processes for awarding extramural research funds for the FANRP and PREISM initiatives --EPCS directives, guidelines, and summary statistics --Agreements, reports, and outcomes from collaboration with cooperators

Performance	<ul style="list-style-type: none"> --ERS material is available to and accessed by a larger number of public and private sector users seeking economic data and analysis --Efforts to gain efficiencies through internal process improvements --Effective dissemination of research and analysis in support of the agency mission --Staff analysis provides timely, useful, and high-quality information and analysis for policy officials 	<ul style="list-style-type: none"> --Research program output indicators --Metrics to describe the reach, relevance, quality, and performance of ERS web dissemination --Website customer satisfaction --Project plans and milestones for process improvement activities --Feedback from website customers through online survey --Turnaround time for staff analysis requests
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